

Translation

PATENT COOPERATION TREATY

PCT



INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

|   |   |  |  |
|---|---|--|--|
| Applicant's or agent's file reference<br>PCTIM0213CN  |   | FOR FURTHER ACTION See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416) |  |
| International application No.<br>PCT/CN02/00554   | International filing date (day/month/year)<br>09 August2002(09.08.02) | Priority date (day/month/year)<br>10 April 2002(10.04.02)  |  |
| International Patent Classification (IPC) or national classification and IPC<br>IPC <sup>7</sup> B23B31/12, 45/14, B25D17/08  |   |  |  |
| Applicant<br>CHINA NORTH INDUSTRIES (GROUP) CORP SHANXI HUIFENG MACHINERY FACTORY ET AL.  |   |  |  |
| <p>1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.</p> <p>2. This REPORT consists of a total of 3 sheets, including this cover sheet.</p> <p><input type="checkbox"/> This report is also accompanied by ANNEXES, i.e., sheets of the description, claims and /or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority ( see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).</p> <p>These annexes consist of a total of sheets.</p>  |   |  |  |
| <p>3. This report contains indications relating to the following items:</p> <p>I <input checked="" type="checkbox"/> Basis of the report</p> <p>II <input type="checkbox"/> priority</p> <p>III <input type="checkbox"/> Non-establishment of opinion with regard to novelty ,inventive step and industrial applicability</p> <p>IV <input type="checkbox"/> Lack of unity of invention</p> <p>V <input checked="" type="checkbox"/> Reasoned statement under Article 35(2)with regard to novelty ,inventive step or industrial applicability; citations and explanations supporting such statement</p> <p>VI <input type="checkbox"/> Certain documents cited</p> <p>VII <input type="checkbox"/> Certain defects in the international application</p> <p>VIII <input type="checkbox"/> Certain observations on the international application.</p> |   |  |  |
| Date of submission of the demand<br>05. MAR.2003 (05.03.03)   |   | Date of completion of this report<br>19.MAR.2004 (19.03.04)  |  |
| Name and mailing address of the IPEA/CN<br>6 Xitucheng Rd., Jimen Bridge, Haidian District,<br>100088 Beijing, China<br>Facsimile No. 86-10-62019451  |   | Authorized officer<br>CHEN Yong<br>Telephone No.86-10-62085465   |  |

## I. Basis of the report

## 1. With regard to the elements of the international application:

☒ the international application as originally filed☐ the description:

pages \_\_\_\_\_, as originally filed

pages \_\_\_\_\_, filed with the demand

pages \_\_\_\_\_, filed with the letter of \_\_\_\_\_

☐ the claims:

Nos \_\_\_\_\_, as originally file

Nos \_\_\_\_\_, as amended (together with any statement) under Article 19

Nos \_\_\_\_\_, filed with the demand

Nos \_\_\_\_\_, filed with the letter of \_\_\_\_\_

☐ the drawings:

sheets/fig \_\_\_\_\_, as originally filed

sheets/fig \_\_\_\_\_, filed with the demand

sheets/fig \_\_\_\_\_, filed with the letter of \_\_\_\_\_

☐ the sequence listing part of the description:

pages \_\_\_\_\_, as originally filed

pages \_\_\_\_\_, filed with the demand

pages \_\_\_\_\_, filed with the letter of \_\_\_\_\_

## 2. with regard to the language, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language Chinese which is:☐ the language of a translation furnished for the purposes of international search (under Rule 23.1(b)).☐ the language of publication of the international application (under Rule 48.3(b)).☐ the language of the translation furnished for the purposes of international preliminary examination (under Rules 55.2 and/or 55.3).

## 3. With regard to any nucleotide and/or amino acid sequence disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

☐ contained in the international application in written form.☐ filed together with the international application in computer readable form.☐ furnished subsequently to this Authority in written form.☐ furnished subsequently to this Authority in computer readable form.☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.4. ☐ The amendments have resulted in the cancellation of:☐ the description, pages \_\_\_\_\_☐ the claims No. \_\_\_\_\_☐ the drawings, sheets/fig \_\_\_\_\_5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).\*\*

\* Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17).

\*\* Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.

## INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International Application No.  
PCT/CN02/00554**V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement****1. Statement:**

|                               |        |      |     |
|-------------------------------|--------|------|-----|
| Novelty (N)                   | Claims | 1-10 | YES |
|                               | Claims | None | NO  |
| Inventive step (IS)           | Claims | 1-10 | YES |
|                               | Claims | None | NO  |
| Industrial applicability (IA) | Claims | 1-10 | YES |
|                               | Claims | None | NO  |

**2. Citations and explanations (Rule 70.7)**

The Documents cited in the International Search Report disclose parts of the art scheme of the invention, respectively.

Except for some basic components thereof, the prior art does not teach or fairly suggest that the features of "at least one of the surfaces facing bearing assembly of the nut and the bearing ring are provided with a concave annular arcuate race, and the bottom surfaces of said race are provided with a plurality of ball-shaped grooves" as recited in claim 1 or 3. The teaching of the prior art as disclosed in the cited documents does not lead a skilled person to get the invention, therefore, the invention defined in the claims is not obvious to a person skilled in the art. The invention according to claims 1-10 is thus novel and is considered to involve an inventive step. So claims 1-10 meet the requirements of PCT Art. 33(2)-(3).

Because the subject matter of claims 1-10 involve industrial applicability, claims 1-10 meet the requirements of PCT Art. 33(4), indeed.

## 专 利 合 作 条 约

发信人: 国际初步审查单位

收信人:

100020

中国北京市朝阳区建国路 99 号中服大厦 1300 室  
中原信达知识产权代理有限责任公司

陈肖梅 顾红霞

PCT

传送国际初步审查报告通知书

(PCT 细则 71.1)

发文日(日/月/年)

01.4月2004(01.04.2004)

申请人或代理人的档案号

PCTIM0213CN

重 要 通 知

国际申请号

PCT/CN02/00554

国际申请日(日/月/年)

09.8 月 2002(09.08.02)

优先权日(日/月/年)

10.4 月 2002 (10.04.02)

申请人

中国北方工业(集团)总公司山西惠丰机械厂 等

1. 通知申请人,本国际初步审查单位随本通知传送对国际申请制定的国际初步审查报告及其附件(如果有附件的话)。

2. 报告及其附件(如果有附件的话)的副本同时送交国际局,以便送达所有选定局。

3. 任何选定局提出要求时,国际局将作出报告的英文译文(但不是任何附件的译文),并将该译文传送给这些选定局。

## 4. 提示

在自优先权日起 30 个月内(或者在有些局更迟)申请人必须完成一定的行为(提交译本和缴纳国家费)进入各选定局的国家阶段(条约第 39 条(1))(参见国际局寄送的 PCT/IB/301 表所附的提示)。

国际申请的译本必须向选定局提供时,该译本还必须包括国际初步审查报告附件的译文。作出并直接向各有关选定局提供该译文是申请人的责任。

有关各选定局适用的期限和要求的详情,参见 PCT 申请人指南第 II 卷。

国际初步审查单位名称和地址

IPEA/CN

100088 中国北京市海淀区蓟门桥西土城路 6 号

传真号: 86-10-62019451

授权官员

陈勇

电话号码: 86-10-62085465

PCT/IPEA/416 (7.1992)

# 专 利 合 作 条 约

## PCT

### 国际初步审查报告

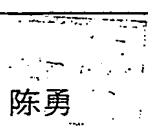
(PCT 条约 36 和细则 70)

|   |  |  |
|---|--|--|
| 申请人或代理人的档案号<br>PCTIM0213CN  | 关于后续行为 参见“传送国际初步审查报告的通知”(PCT/IPEA/416 表) |  |
| 国际申请号<br>PCT/CN02/00554   | 国际申请日 (日/月/年)<br>09.8 月.2002 (09.08.02)  | 优先权日 (日/月/年)<br>10.4 月 2002 (10.04.02) |
| 国际专利分类(IPC)或者国家分类和 IPC 两种分类<br>IPC <sup>7</sup> B23B31/12, 45/14, B25D17/08 |  |  |
| 申请人<br>中国北方工业(集团)总公司山西惠丰机械厂 等   |  |  |

1. 本国际初步审查单位已作出国际初步审查报告并依照条约第 36 条将其传送给申请人。
2. 本报告共计 3 页, 包括扉页。
- ☐ 本报告还有附件, 即修改后的并且作为本报告基础的说明书修改页、权利要求书修改页和/或附图修改页, 和/或对本国际初步审查单位所作出的更正页(见 PCT 细则 70.16 和行政规程 607)。
- 这些附件共计        页

3. 本报告包括关于下列各项的内容:

- I ☒ 报告的基础
- II ☐ 优先权
- III ☐ 不作出关于新颖性、创造性和工业实用性的意见
- IV ☐ 缺乏发明的单一性
- V ☒ 按条约 35(2)关于新颖性、创造性或工业实用性的推断性意见; 支持这种意见的引证和解释
- VI ☐ 引用的某些文件
- VII ☐ 国际申请中的某些缺陷
- VIII ☐ 对国际申请的某些意见

|   |  |
|---|--|
| 提交要求书的日期<br>05.3 月.2003 (05.03.03)  | 完成本报告的日期<br>19.3 月.2004 (19.03.04)   |
| 国际初步审查单位名称和地址<br>IPEA/CN<br>中国北京市海淀区西土城路 6 号(100088)<br>传真号: 86-10-62019451 | 授权官员<br><br>陈勇<br>电话号码: 86-10-62085465 |

## I. 报告的基础

## 1. 关于国际申请中各个部分: \*

☒ 原始提交的国际申请。

☐ 说明书, 第 \_\_\_\_\_ 页, 原始提交的,  
第 \_\_\_\_\_ 页, 要求书提交的,  
第 \_\_\_\_\_ 页, \_\_\_\_\_ 的信件提交的。

☐ 权利要求, 第 \_\_\_\_\_ 项, 始提交的,  
第 \_\_\_\_\_ 项, 条约第 19 条修改的(附有说明),  
第 \_\_\_\_\_ 项, 要求书提交的。  
第 \_\_\_\_\_ 项, \_\_\_\_\_ 的信件提交的。

☐ 附图, 第 \_\_\_\_\_ 页, 原始提交的。  
第 \_\_\_\_\_ 页, 随要求书提交的,  
第 \_\_\_\_\_ 页, \_\_\_\_\_ 的信件提交的。

☐ 说明书中的序列列表部分

第 \_\_\_\_\_ 页, 原始要求提交的,  
第 \_\_\_\_\_ 页, 随要求书提交的,  
第 \_\_\_\_\_ 页, \_\_\_\_\_ 的信件提交的。

## 2. 关于所使用的语言, 除本项下另有说明外, 本国际初步审查单位所获得的或者已向本国际初步审查单位提交的上述所有部分, 所使用的语言均为提交本国际申请时所使用的语言。

本国际初步审查单位所获得的或向本国际初步审查单位提交的这些部分所使用的语言是 汉语,  
这种语言是

- ☐ 为了国际检索而提交的译本所使用的语言(细则 23.1(b))。  
☐ 本国际申请公布时所使用的语言(细则 48.3(b))。  
☐ 为了国际初步审查而提交的译本所使用的语言(细则 55.2 和/或 55.3)。

## 3. 关于本国际申请中所公开的任何核武酸和/或氨基酸的序列, 本国际初步审查是根据下面的序列列表进行的:

- ☐ 国际申请中所包含的书写形式的序列列表。  
☐ 与国际申请同时提交的计算机可读形式的序列列表。  
☐ 后来以书写形式向本国际初步审查单位提交的序列列表。  
☐ 后来以计算机可读的形式向本国际初步审查单位提交的序列列表。  
☐ 已提交了关于后来提交的书写形式的序列列表没有超出原始提交的国际申请所公开的范围的说明。  
☐ 已提交了关于以计算机可读的形式记载的信息是与书写形式的序列列表相同的说明。

## 4. 修改删除了以下内容:

- ☐ 说明书, 第 \_\_\_\_\_ 页  
☐ 权利要求, 第 \_\_\_\_\_ 项  
☐ 附图, 第 \_\_\_\_\_ 页, 图 \_\_\_\_\_

5. ☐ 由于(某些)修改被认为超出了原始公开的范围, 如补充栏所示, 因此本报告是按照如同没有修改的情况作出的(细则 70.2(c)). \*\*

\* 按照条约第 14 条答复通知时向受理局提交的替换页, 在本报告中被称为“原始提交的”。这些替换页不作为本报告的附件, 因为它们没有包含修改(细则 70.16 和 70.17)。

\*\* 任何包含这种修改的替换页, 都必须在第 1 项中指明, 并作为本报告的附件。

V. 按条约 35 条(2)关于新颖性、创造性或工业实用性的推断性意见：支持这种意见的引证和解释

1. 意见

|           |           |   |
|-----------|-----------|---|
| 新颖性(N)    | 权利要求 1-10 | 是 |
|           | 权利要求 无    | 否 |
| 创造性(IS)   | 权利要求 1-10 | 是 |
|           | 权利要求 无    | 否 |
| 工业实用性(IA) | 权利要求 1-10 | 是 |
|           | 权利要求 无    | 否 |

2. 引证和解释 (细则 70.7)

国际报告中引用的对比文件分别公开了本发明的部分技术方案。

但是除了一些基本的部件设置以外，现有技术并没有公开“至少在轴承环和螺圈二者之一中朝向轴承组件的面上制有下凹的环状圆弧形滚道，并且在圆弧形滚道底部的弧面上均匀制有许多球形坑”。因此引用的对比文件所公开的现有技术并不能带给本领域普通技术人员启示以获得本发明，因此由权利要求所限定的本发明不是显而易见的。所以权利要求 1-10 所请求保护的技术方案具有新颖性和创造性，满足 PCT33 条第 2-3 款关于新颖性和创造性的规定。

而且，由于权利要求 1-10 所记载的钻夹头具有工业实用性，所以权利要求 1-10 满足 PCT33 条第 4 款的规定。